What is claimed is:

1. A handpiece used with flexible shaft assemblies, the handpiece comprises:

a shrouded wall having a first end and a second end adapted to receive a connection device, and the shrouded wall has a generally cylindrical shape;

a chuck assembly which is rotatable connected to the interior of the shrouded wall portion; and

wherein a first portion of the shrouded wall has a diameter between about 25.5 mm to above.

2. The handpiece as claimed in Claim 1, wherein the length of the first portion is in the range of about 35 mm to about 45 mm.

3. The handpiece as claimed in Claim 1, wherein the length of the first portion is about 40 mm.

4. The handpiece as claimed in Claim 1, wherein the diameter of the first portion is about 26 mm.

5. The handpiece as claimed in Claim 1, wherein the thickness of the shrouded wall is in the range of about .7 mm to about 1.2 mm.

6. The handpiece as claimed in Claim 1, wherein the thickness of the shrouded wall is about .7mm - .8 mm.

7. The handpiece as claimed in Claim 1, wherein a second portion of the shrouded wall located between the first end and the second end includes a plurality of grooves or ridges.

8. The handpiece as claimed in Claim 7, wherein the second portion has a length in the range of about 40 mm to about 85 mm.

9. The handpiece as claimed in Claim 7, wherein the second portion has a length of about 62 mm.

10. The handpiece as claimed in Claim 7, wherein the second portion has a diameter ranging from about 25.2 mm to about 25.6 mm.

11. The handpiece as claimed in Claim 7, wherein the second portion has a diameter of about 25.4 mm.

12. The handpiece as claimed in Claim 1, wherein the chuck includes a plurality of jaws which are able to secure a bit.

13. A handpiece used with flexible shaft assemblies, the handpiece comprises:

a shrouded wall having a first end and a second end which is adapted to receive a the flexible shaft assembly, and the shrouded wall has a generally cylindrical shape;

a chuck assembly which is rotatable connected to the interior of the first end of the shrouded wall portion and protrudes out of the shrouded wall so that the teeth of the chuck are able to receive a bit

a first portion of the shrouded wall located at the first end has a diameter in the range of about 25.5 mm to about 27.0 mm; and

a second portion of the shrouded wall located between the first end and the second end includes a plurality of grooves or ridges and has a diameter in the range of about 40 mm to about 85 mm.

14. A handpiece used with a flexible shaft assembly, the handpiece comprises:

a shrouded wall having a first end and a second end;

a 3-jaw chuck assembly which is rotatably connected to the interior of the first end of the shrouded wall portion and a plurality of jaws which are able to receive a bit; and

wherein the opening of the chuck jaws may be adjusted by a chuck key and the chuck has an effective capacity of about 5 mm to above.

15. The handpiece as claimed in Claim 14, wherein a first portion of the shrouded wall, which is located near the first end, has a diameter of about 25.9 mm to above

16. The handpiece as claimed in Claim 14, wherein the shrouded wall includes a second portion located between the first end and the second end and includes a plurality of grooves or ridges.

17. The handpiece as claimed in Claim 16, wherein the second portion has a diameter ranging from about 25.2 mm to about 25.6 mm.

18. A handpiece used with a flexible shaft assembly, the handpiece comprises:

a shrouded wall having a first end and a second end;

a 3-jaw chuck assembly which is rotatably connected to the interior of the first end of the shrouded wall portion and a plurality of jaws which are able to receive a bit; and

wherein at least a portion of the chuck is covered by the shrouded wall and the chuck has an effective capacity of about 5 mm to above.

19. The handpiece as claimed in Claim 18, wherein the 3-jaw chuck has an outer diameter in the range of about 23.0 mm to about 24.mm.